

Application No. 09/744,134  
Filed: March 21, 2001  
TC Art Unit: 1764  
Confirmation No.: 3016

#### REMARKS

Claims 1, 3-13, 15 and 16 are pending in the present application. The pending claims have either been objected to or rejected by the Examiner under 35 U.S.C. §§ 112 and 103. Amended herein are claims 3 and 8. Support for the amendments can be found throughout the specification and claims as originally filed such that new matter has not been added. Accordingly, claims 1, 3-13, 15 and 16 will be pending upon entry of the amendments herein.

Any amendments to the claims should not be construed as acquiescence to any of the rejections by the Examiner and was done solely to expedite the prosecution of the application. Applicants reserve the right to pursue the claims as originally filed in this or a separate application(s).

Applicants respectfully request reconsideration and withdrawal of the rejections by the Examiner in view of the above amendments and the remarks herein.

#### Claim Objections

The Examiner has objected to claim 3 for reciting the term "form" rather than the appropriate term "from." Applicants have properly amended claim 3 and respectfully submit that this objection has been overcome.

#### Claim Rejections 35 U.S.C. § 112

Claim 8 has been rejected by the Examiner for failing to distinctly claim the subject matter that Applicants regard as the invention under 35 U.S.C. § 112. The Examiner has contended that claim 8 is indefinite as the term "the support" lacks appropriate

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antecedent basis. Applicants have amended claim 8 to depend from claim 7 such that the term "the support" has proper antecedent basis. Thus, Applicants respectfully submit that this rejection has been overcome.

Claim Rejections 35 U.S.C. § 103

The Examiner has rejected claims 1, 3-13, 15 and 16 under 35 U.S.C. § 103 as being unpatentable over International Publication No. WO 97/03150 in view of U.S. Patent No. 4,738,771 to Miller et al. Applicants respectfully respond to this rejection through the following remarks.

It is suggested by the Examiner that the cited International Publication teaches each of the limitations of the claimed invention aside from (1) the amount of sulfur in the feedstock, (2) the inclusion of a metal oxide and (3) the relative amounts of both catalysts. The Examiner has contended that these particular limitations are taught by Miller et al. and that it would have been obvious to combine the references to sustain a rejection of the pending claims. Applicants, however, respectfully traverse this rejection and assert that the Examiner has not established a *prima facie* obviousness argument.

Specifically, Miller et al. is directed to a catalytic absorbent composition for desulfurizing reformer feedstocks. See column 1 at line 9. The reference teaches that this absorbent composition is preferably nickel oxide. See column 5 at line 14. As described by the reference, catalytic absorbents are particularly effective for desulfurization and treating sulfur containing hydrocarbons that are to be fed to a downstream reactor having Group VIII metal containing catalysts that promote, for

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example, hydrogenation. See column 5 at line 44. Miller et al. also suggests that the activity and stability of such Group VIII metal containing catalysts are deleteriously effected by sulfur compounds. See column 1 at line 18.

Miller et al. also discloses that reforming catalysts comprising *platinum* and *rhenium* are deactivated and contaminated during sulfur processing. See column 1 at line 30. In order to avoid this deactivation and contamination, the reference teaches that it is necessary to reduce the sulfur content of the reformer feedstock through the use of an upstream nickel oxide absorbent. As taught, the nickel oxide absorbent is arranged or configured *prior* to the Group VIII metal containing catalyst such that the sulfur compounds contact the catalytic absorbent *before* the catalyst. See column 1 at line 34. Based on this teaching, one of ordinary skill in the art would not have been motivated to use a nickel oxide absorbent *after* or in *combination* with a Group VIII metal containing catalyst as maintained by the Examiner.

By comparison, the processes disclosed in claims 1 and 3 require Group VIII metal containing catalysts such as *platinum* or *rhenium* that are contacted with a sulfur containing feedstock *prior* to or in *combination* with a metal oxide. These processes are advantageous for catalyst regeneration and recovery. See page 3 at line 10. Moreover, these process requirements are clearly opposite to the teachings of Miller et al. As described, Miller et al. discloses a process in which a sulfur containing feed is treated and desulfurized by a nickel oxide absorbent *before* the feedstock is contacted by a Group VIII metal containing catalyst. Applicants respectfully contend that a *prima facie* obviousness rejection cannot be established based on this teaching by Miller

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et al. as the reference, either individually or in combination with the International Publication, does not disclose each element of the claimed invention.

In general, an obviousness rejection requires that a reference or combination of references disclose each element or limitation of the claimed invention. The patent laws also require that the references disclose each element as arranged in the pending claims. With regard to the claimed invention, processes are disclosed in which Group VIII metal containing catalysts are contacted with a sulfur feedstock **prior** to or in **combination** with a metal oxide. The cited references, however, do not teach either of the **prior** to or in **combination** with limitations of claims 1 and 3, respectively. Accordingly, the references in combination do not render the claimed invention obvious.

It is also settled law that a reference cannot be interpreted in a manner that would obviate the advantages that it discloses or teaches. Miller et al. should thus not be interpreted such that its teachings and advantages relating to avoiding deactivation or contamination of Group VIII metal containing catalysts would be obviated. It is also respectfully asserted that Miller et al. cannot be properly asserted in combination with the International Publication as such a combination would contravene the patent laws.

Based on the foregoing remarks, Applicants respectfully submit that the claimed invention cannot be rendered obvious by the unmotivated combination of references cited by the Examiner. Applicants also respectfully request reconsideration and withdrawal of this rejection by the Examiner under 35 U.S.C. § 103.

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CONCLUSION

Based on the entry of amendments and remarks presented herein, reconsideration and withdrawal of all the rejections and allowance of the application with all pending claims are respectfully requested.

The Examiner is encouraged to telephone the undersigned attorney to discuss any matter that would expedite allowance of the present application.

Respectfully submitted,

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